THE BURDEN OF THE PROPOSED TRAFFIC IMPACT FEE

A Report Prepared for

City of Livermore

By

Angus McDonald & Associates, Inc.

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I. INTRODUCTION AND SUMMARY

A. Purpose of the Study

The City of Livermore is considering adopting a Traffic Impact Fee to pay for the roadway improvements that will be required to accommodate the travel demands generated by new development. The City recognizes the realities of roadway finance in the late 1980's. The competition for available funds to finance existing deficiencies is intense. Neither the portion of the fuel tax that is allocated to cities, nor the State of California's State Highway Account, can reliably be depended on to finance added roadway capacity to serve new development. The City is concerned that appropriate new sources of financing be available, so that level of service does not degrade. At the same time, the City is concerned about the economic impact of additional fees and charges. Accordingly, Angus McDonald & Associates was commissioned by The City of Livermore to evaluate the burden of the proposed traffic impact fees described in the February 1987 study undertaken by Omni Means, Traffic Impact Fee Study. (R-8)*

The purpose of the study is two-fold: The first purpose is to compare Livermore's fees with other cities. The second purpose is, to illustrate the burden of the proposed fees as they affect three main variables. These are:

1. Residual land values (the fee is "passed back" against the value of the land).

2. Profit margins of developers/landowners (the fee is absorbed).

3. Final product prices (the fee is "passed forward" in the form of higher prices).

B. Summary of Conclusions

The results of the analysis illustrate the following measure of the burden of the proposed traffic impact fee. The impacts are considered under three scenarios for each of six "prototype" development projects.

The consultants conclude that the actual burden of the proposed fee will differ in the short, medium and long-run for each development prototype. This has been borne out by the survey of key informants, and in the literature on the economic impacts of fees.

* Numbers in parenthesis refer to references listed at the end of this report.

For the purposes of the study, the consultant team has selected the "mid-term" as a reasonable time horizon over which to assess where the burden of fees will fall. The "mid-term" is defined as two to three years hence, and the estimated impact is the consultant's own opinion as of December 4, 1987.

It is the professional judgement of the study team that, in the mid-term, the burden of the residential component of the proposed traffic fee in Livermore will be borne by residential home buyers, particularly buyers of single-family residences. However, it is not expected that, at current levels, the fee would noticeably harm Livermore's position as a supplier of reasonably priced housing. This is due to the fact that, as a percentage of both profits and final selling price, the fee is relatively insignificant in this market.

Developers of non-residential projects will bear the burden in the form of lower profits, if they already own the land, or they will force lower land values, if they do not own the land. Until land values fall sufficiently, Livermore will be a more costly place to develop. Currently, rents for multi-family units and industrial space are constrained by the weak market, so the proposed impact fee could not be passed on in the form of higher final product costs or rents for these categories. This will result in a slow-down in the rate of industrial and multi-family residential development. Some types of office and retail development are more sensitive to location than to price. The less price sensitive retail and office developments will tolerate price increases, while the more sensitive will force lower land values and temporarily reduced developer profits.

II. THE PROPOSED TRAFFIC IMPACT FEE

A. Description of the Proposed Fee

The recommended traffic impact fee was designed to finance the roadway improvements that are required to maintain Livermore's target for Level of Service (LOS) as the City grows and develops. The proposed traffic impact fees are shown in Table II-1. These fees were developed by the engineering-planning firm, Omni-Means in February 1987. The fees range from $1,450 per Dwelling Unit (DU), for residential development, to $4.35 per square foot (sq.ft.), for commercial development. The level of roadway improvements which this fee schedule would support is in excess of $128 million. (R-8)

Table II-1

RECOMMENDED TRAFFIC IMPACT FEES

LAND USE (Development Factor)	TRAFFIC FEE
Residential (dwelling unit - D.U.)	
- Low Density	$1,450/D.U.
- Medium Density	$1,160/D.U.
- High Density	$ 870/D.U.
Commercial (1,000 sq. ft.)	
- Neighborhood	$4.35 sq.ft.
- Service	$1.16 sq.ft.
- Highway	$2.61 sq.ft.
- Office	$4.06 sq.ft.
Industrial (1,000 sq.ft.)	
- Low Intensity	$1.60 sq.ft.
- High Intensity	$1.74 sq.ft.

Source: Omni Means

B. Comparison With Other Communities

One objective of the study was to compare Livermore's fees with other jurisdictions. This section analyzes how development fees in Livermore compare with fees in other communities, both now and after imposition of the traffic impact fee. Livermore is compared to three cities - Hayward, Dublin and Pleasanton. A comparison is also made with the unincorporated Alameda County area around San Lorenzo. This area was selected because storm drainage, sanitary sewer and water is available and provided by only one service district for each item. Figure II-2 shows the market area in which Livermore competes for residential, commercial and industrial development.

Information on existing development fees was obtained by telephone interviews in three steps. First, each community, including Livermore, was contacted to identify and gather information on the development fees charged. Second, Livermore's Planning and Engineering Departments identified typical projects built in Livermore since 1985. The six projects included: single-family, multi-family, office, retail, warehouse and light industry. Third, the other communities were contacted again using the typical projects as the reference point for gathering specific fee charges. The total fees were then calculated for the six projects based on interviews with the comparable areas. The results are shown in Table II-3.

1. Description of Typical Projects

In order to allow a comparison to be made between Livermore's fees and other communities, typical projects were used as a basis for Table II-3. This section briefly describes the way in which these projects were chosen and used in the subsequent analysis of the burden of the fees.

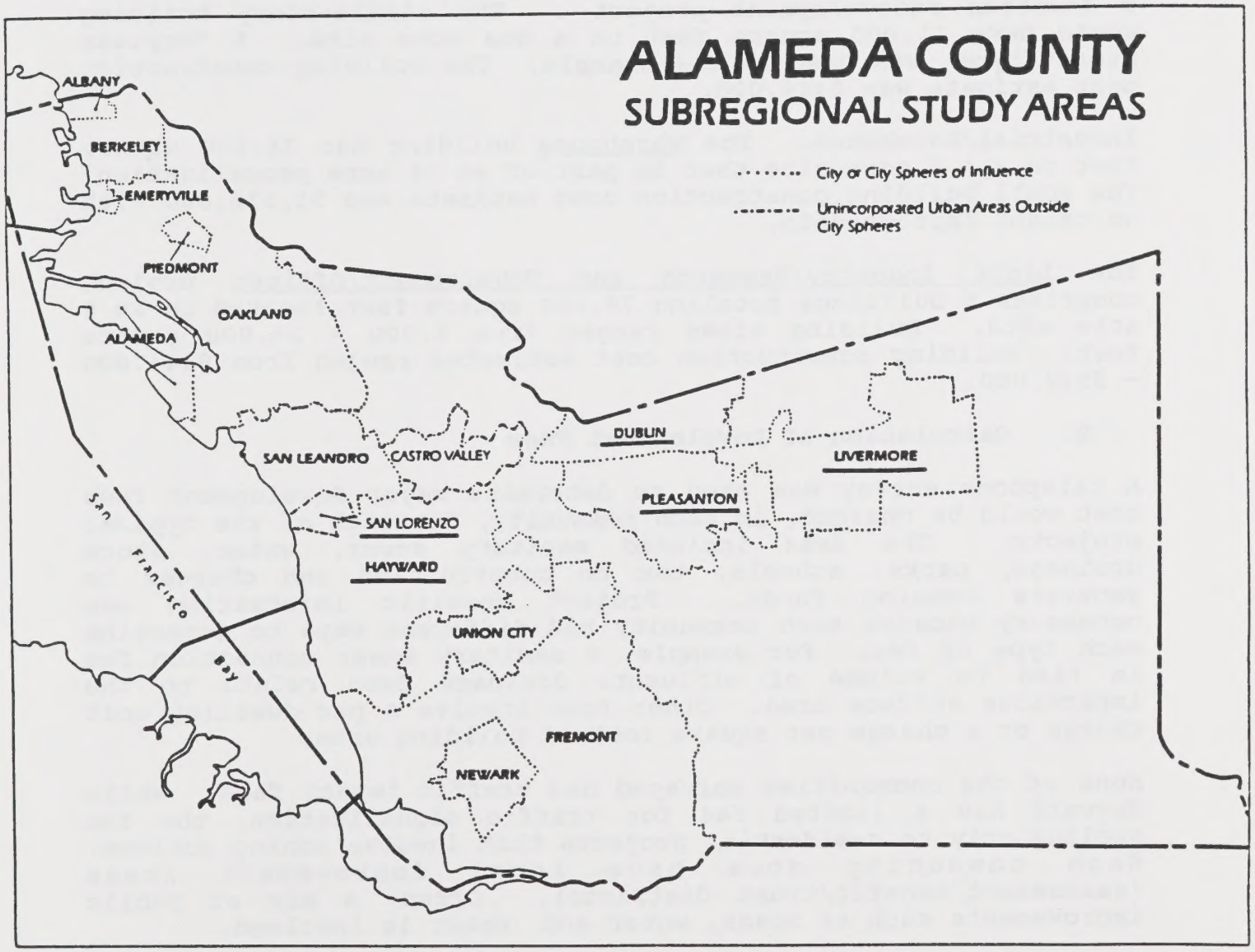
The Planning Department, City of Livermore, identified six typical projects built since 1985. Refer to Appendix A, for a specific profile of each project. These projects enabled a comparison to be made between specific fees in each community. Each project is located in a developed part of Livermore or is adjacent to existing development.

The main features of each typical project are described below.

Residential. The Single-Family project comprises 18 lots on a 4 acre subdivision. Homes averaged 1800 square feet with 3 bedrooms. Building construction cost estimates ranged from $91,500 - $128,000.

Figure II-2

LIVERMORE AND THE MARKET AREA



The Multi-Family project has 48 units built on 4.3 acres, as part of a planned unit development. Apartment size averaged 800 square feet. There are 2 buildings of 8 units and 2 buildings with 16 units. Building construction cost estimate was $354,800 and $675,400 respectively.

Retail/Office. Retail/Office refers to a building of 5,430 square feet on a 10,000 square foot lot in the central business district. The two-story building construction cost estimate was $268,700.

The Retail project is the one non-built project but is based on the building and location of an approved retail/office portion of a downtown redevelopment project . The single-story building would have 11,000 square feet on a one acre site. A "Payless Store" type was used as the example. The building construction cost estimate was $484,000.

Industrial/Warehouse. The Warehouse building has 76,800 square feet on a 4.5 acre site that is part of an 18 acre parcelization. The shell building construction cost estimate was $1,536,000 with no tenant improvements.

The Light Industry/Research and Development/Offices project comprises 5 buildings totaling 78,600 square feet located on an 8 acre site. Building sizes ranged from 7,000 - 25,000 square feet. Building construction cost estimates ranged from $144,000 - $519,000.

2. Calculation of Development Fees

A telephone survey was used to determine major development fees that would be charged, in each community, for each of the typical projects. The fees included sanitary sewer, water, storm drainage, parks, schools, tax on construction and charges to generate housing funds. Project specific information was necessary because each community had different ways to determine each type of fee. For example, a sanitary sewer connection fee is tied to volume of effluent; drainage fees relate to the impervious surface area. Other fees involve a per dwelling unit charge or a charge per square foot of building area.

None of the communities surveyed had traffic impact fees. While Hayward has a limited fee for traffic signalization, the fee applies only to residential projects that involve zoning actions. Each community does have local improvement areas (assessment/benefit/trust districts). Often, a mix of public improvements such as roads, water and sewer is involved.

Some development charges were excluded from the analysis because comparison with other communities would not be meaningful. For example, fees associated with inspections of building or public

works construction or the checking of tract or parcel maps and surveys were not included. As another example, a site-specific mitigation fee for fire protection capital equipment would not be included, nor were such project-specific charges such as moving "large or unusual objects" included.

Table II-3

LIVERMORE'S FEES COMPARED TO OTHER COMMUNITIES

	Livermore	Hayward	Dublin	Pleasanton	Unincorporated Alameda Co. (San Lorenzo)
Single-Family Residence (Per Dwelling Unit)					
Proposed Traffic Impact Fee	$1,450				
Other Development and Impact Fees	$10,800	$6,300	$10,400	$10,400	$5,700
Total	$12,250	$6,300	$10,400	$10,400	$5,700
Apartment Complex (Per Dwelling Unit)					
Proposed Traffic Impact Fee	$870				
Other Development and Impact Fees	$8,500	$3,200	$4,600	$6,100	$4,600
Total	$9,370	$3,200	$4,600	$6,100	$4,600
Retail Commercial Space (Per Building Square Foot)					
Proposed Traffic Impact Fee	$4.35				
Other Development and Impact Fees	$2.42	$0.96	$3.57	$2.69	$1.27
Total Off-Tract Assessments	$0.00	$0.00	$0.00	$0.00	$0.00
Total	$6.77	$0.96	$3.57	$2.69	$1.27
Office Space (Per Building Square Foot)					
Proposed Traffic Impact Fee	$4.06				
Other Development and Impact Fees	$2.00	$0.73	$2.68	$2.29	$0.95
Total Off-Tract Assessments	$0.00	$0.00	$0.00	$5.89	$0.00
Total	$6.06	$0.73	$2.68	$8.18	$0.95
Warehouse Space (Per Building Square Foot)					
Proposed Traffic Impact Fee	$1.60				
Other Development and Impact Fees	$1.07	$0.41	$1.68	$1.39	$0.50
Total Off-Tract Assessments	$0.00	$0.00	$0.00	$0.00	$0.00
Total	$2.67	$0.41	$1.68	$1.39	$0.50
Mixed Industry (Per Building Square Foot)					
Proposed Traffic Impact Fee	$1.74				
Other Development and Impact Fees	$1.13	$0.73	$2.84	$2.61	$2.38
Total Off-Tract Assessments	$0.00	$0.00	$0.00	$15.61	$0.00
Total	$2.87	$0.73	$2.84	$18.22	$2.38

Notes:

1) The total fees shown exclude certain project-specific charges: see page 7, last paragraph.
2) Fees and charges are as of November 25, 1987
3) Assessments are for off tract improvements and are converted from a per land square foot value to a per building square foot value.

Assembled By: Angus McDonald & Associates

3. Comparison of Fee Types

Residential, commercial and light industrial development in the Tri-Valley (Livermore, Pleasanton, and Dublin) area has been impressive in recent years. This growth occurred at a time when municipalities do not have the base revenues they had in previous years, particularly prior to the passage of Proposition 13. As a result, municipalities have had to levy fees in order to provide the water, sewer, park and school services for new industrial, commercial and residential development. This is in contrast to older built-up areas, like Hayward, where the public service infrastructure and facilities are already in place and can accommodate expected growth. Hayward does not have to make the major capital investments in public service facilities that cities in the tri-valley area must, and thus levies lower fees than those cities. The remainder of this section of the report discusses the difference between the area in terms of each fee type levied on a "typical" development.

Sanitary Sewer fees are dramatically higher in the Tri-Valley area as compared to fees in Hayward or the unincorporated county area of San Lorenzo. The fees reflect charges to defray recent treatment facility capital costs. For example, the Tri-Valley residential fees are 3.5 to 5 times larger. Commercial/industrial fees range anywhere from 5.5 to 50 times higher.

Water fees are higher in the Tri-Valley area for residential developments. For example, single family fees are 3 times larger and multi-family fees are 20 times larger than those in Hayward/San Lorenzo. The fee structure changes, however, for commercial/industrial developments. Hayward's fees are between 50% and 67% of other areas. But, the county area of San Lorenzo has water fees that fall in the mid-range of fees charged in the Tri-Valley area.

Storm drainage and flood control fees reflect the fact that there is an established drainage infrastructure in the East Bay area. Thus Hayward can base their connection/inspection fees on a time and material basis. For the San Lorenzo area, the county uses a county-wide tax to finance infrastructure maintenance and expansion. The Tri-Valley area has Alameda County Zone 7 fees that apply to all developments. Those fees are the same in each of the three towns. Livermore has higher storm drainage fees which is levied both to accommodate necessary oversizing and to reimburse previous developers who installed oversize systems . Residential fees are increased by 60-85% compared to Dublin and Pleasanton fees. Commercial/industrial fees are 60% higher.

Park fees for residential developments are the same in Hayward/San Lorenzo area at $500 per dwelling unit. By contrast, fees in the Tri-Valley area are 2-3 times higher, ranging from $1,200 - $1,700 per dwelling unit.

School fees for residential developments are basically the same ($1.50 per square foot) in each of the communities. Dublin and Pleasanton still apply a fee tied to the number of bedrooms and square feet in a dwelling unit. This leads Dublin and Pleasanton to have a lower per square foot fee of $0.80 for multi-family dwelling units. The San Lorenzo county area school district limits their fees to residential developments. Fees that apply to commercial/industrial developments in Livermore are the lowest at 13 cents per square foot. The other three cities almost double that school fee by charging 25 cents per square foot, the maximum charge permitted by state law.

A tax on construction occurs only in Livermore and Hayward. This tax is effectively a business license tax, and in Livermore it goes into the General Fund for general purpose use. In practice, it has been used to pay for capital improvements in the city. Hayward limits the tax to residential projects. In Hayward, the proceeds from this tax do not go into the General Fund, but are restricted specifically to capital improvement projects in the city. Only Livermore and Pleasanton charge in-lieu housing fees on residential projects to generate funds for future low-income housing needs of their respective communities.

4. Comparison of Total Fees in Survey Area

When the proposed traffic impact fee is included, Livermore's fees are consistently higher than those in the other cities surveyed in this report. If the proposed fee is ignored, Livermore has the highest fees for residential development. Pleasanton and Dublin have the highest non-residential development fees.

Pleasanton is a special case. Pleasanton is using special assessment districts to finance the type of improvements that Livermore proposes to finance with the proposed traffic impact fee. For ease of analysis we have chosen the off-tract element of the total per square foot assessment at the Hacienda Business Park. When the portion of the assessment in the Hacienda Business Park for off-tract public improvements is converted from a per square foot of land to a per building square foot value, Pleasanton has the highest total fee type burden for office and mixed industrial development.

Single Family Residential development and impact fees are highest in the Tri-Valley area. Fees range from $5,500 to $5,700 per dwelling unit in Hayward and San Lorenzo (unincorporated Alameda County) respectively to between $10,400 and $10,800 in the Tri-Valley area. Pleasanton and Dublin's fees are 96% of Livermore's before the proposed traffic impact fee and 85% after. The proposed fee of $1,450 would raise the total fee level in Livermore by 13%.

Multi-Family Residential development fees are again highest in Livermore, even before the proposed traffic impact fee is included. The fees are also significantly higher in the Tri-Valley area than they are in Hayward and San Lorenzo. Hayward's development fees of $3,200 are 38% of the pre-traffic impact fee total of $8,500 in Livermore. Pleasanton's fees of $6,100 are second to Livermore's but are still only 72% of Livermore's. The proposed traffic impact fee would raise Livermore's total fee burden by 10.2%, further exacerbating these differentials.

Retail Commercial development fees are currently highest in Dublin at $3.57 per building square foot. They are significantly lower in Hayward and San Lorenzo, $0.96 and $1.27 per building square foot respectively. The proposed traffic impact fee of $4.35 per building square foot would raise Livermore's current fee level of $2.42 by 180% to $6.77. There is no major retail activity at the Hacienda Business Park so the assessment levy for Hacienda is not included here. Pleasanton's total levy of $2.69 exceeds Livermore's current fee by 11%. After the imposition of the proposed fee in Livermore, Dublin and Pleasanton's fee level would be 53% and 40% of Livermore's level respectively.

Office Commercial development fees in Dublin are the highest in the survey area, at $2.68 per building square foot. This is 34% higher than Livermore's pre-traffic impact fee levy of $2.00 per building square foot. As with the other categories, the fees for office space in Hayward and San Lorenzo are significantly lower, they are between 37% and 48% of Livermore's fees. The proposed traffic impact fee of $4.06 per building square foot would raise Livermore's total fee level by 203% to $6.06 per building square foot. When the special off-tract assessments in North Pleasanton are included, the fee and special assessments levy per building square foot in Pleasanton of $8.18 exceeds Livermore's new proposed level by 35% and Dublin's fee charges by 205%.

Warehouse Industrial development fees in Livermore before the proposed traffic impact fee for the prototype development are $1.07 per building square foot. Hayward's fees for this type of space are 38% of Livermore's. Dublin and Pleasanton's fees of $1.68 and $1.39 per building square foot are higher than Livermore's by almost one-third. If the proposed traffic impact fee of $1.60 per building square foot is enacted, then Livermore's fees will rise by 149% to $2.67.

Mixed Industrial development fees per building square foot are currently highest in Dublin at $2.84 per building square foot. After Livermore's proposed traffic impact fee of $1.74 per building square foot raise Livermore's total levy by 154% to $2.87 per building square foot Dublin and Livermore will have almost identical fees. Still, when the Hacienda Business Park special off-tract assessments are included, Pleasanton's total

levy of $18.22 per building square foot exceeds Dublin and Livermore by approximately 530%. The development fee levels in Hayward and San Lorenzo of $0.73 and $2.38 respectively are 65% and 137% of the current Livermore fee levy and 25% and 83% of the post traffic impact fee total Livermore development fee levy.

III. THE BURDEN OF THE PROPOSED FEE

This chapter begins with a summary of the academic literature on the subject of fees and who bears the burden. This provides an important context in which to evaluate the practical responses of developers and landowners to the imposition of fees. Section B summarizes the results of interviews conducted with key informants and industry participants. The interviews enabled the study team to gauge the short and long-term response to development fees in the market-place by posing the question "What did the industry do when faced with the imposition of a fee?"

A. Theoretical Framework

This section presents a discussion of the theoretical approaches to analyzing development fees and reviews the existing literature on the subject. A literature survey is important because it places this work within the context of previous research on the subject. A survey allows a comparison of empirical research with the work done by others and to place the theoretical model under the scrutiny of empirical research.

1. The Definition of "Burden"

The imposition of a development fee places a burden on an individual or group of individuals. Initially the developer will pay the fee, but this is not synonymous with bearing the burden of the fee. If an individual or group suffers a loss of value, monetary or other, wealth, or profit as a result of the enactment of a fee they can be said to have born all of or a fraction of the burden of the fee.

There are three possibilities as to who could bear the burden of a development fee: the buyer/consumer, the developer, and the land owner. If the fee is passed forward in the form of higher final prices, then the consumer bears the burden. If the fee is capitalized into lower land values, then the landowner will foot the bill. If the developer either owns the land or is unable to purchase the land for a lower price, and is also unable to sell at higher price then the developer will bear the burden of the fee in the form of lower profits. Even if the developer is able to raise the price of the home or building, and if sales are sluggish, then the developer's profits will be lower because of the costs of holding on to the property for a longer period.

2. A Simple Theoretical Model

A traditional free market theoretical analysis of development fees would assume that real estate markets are always at the "perfect" price and that both buyers and sellers have equal access to all pertinent information. In such a market, any

change in the fee structure would instantly be capitalized into lower land values.

Theoretically, in a pre-Proposition 13 world, consumers would be willing to pay a premium for a home or building if this lowered their future tax burden. They would be willing to pay development fees in lieu of having their taxes increased to pay for the same improvements. However, the tax savings to a new buyer would be less than the development fee. The burden is carried by fewer people because, instead of having all city residents pay for the improvements, by taxation, only new residents pay, by development fees. As such, the tax savings to a new buyer would be less than the development and they would not be willing the shoulder the entire fee in the form of higher home or building prices. Marketing practice in California does not comfortably reflect this theory.

The passage of Proposition 13 in 1978 has made new local taxes highly unlikely for California residents. While new taxes have been approved in some localities by the mandated two-thirds votes, it is not commonplace. The threat of a future tax burden is minimal to non-existent, so consumers will be less tolerant of price increases in homes and buildings to pay for infrastructure.

In a perfectly competitive model, it is assumed that all developers' profits are equal to profits earned in all other businesses, (i.e., have economic profits of zero). Over the long run, they are unwilling to reduce their profits. If homeowners refuse to allow home prices to rise by the entire amount of the fee, then the developers must temporarily pay the fee. In the long run the developers and builders could not be "squeezed". The land values must fall to absorb the element of the fee increase not reflected in a rise in the price of the completed home or building.

Land values would drop because the entire fee could not be passed forward in the form of higher final product prices. Over time developers will only purchase raw land at a price that allows them to make a profit. If they know that they face a development fee and that they cannot raise prices to account for the fee they will have to pay less for the land. Raw land values will fall to account for the added "cost", the development fee, of construction that cannot be completely passed on to the buyers. In this way over the long run the burden of the fee is borne in the form of higher final product prices and lower raw land values.

In the short run, it is theoretically possible for developers and builders to suffer negative economic profits. In response to this, the numbers of builders would fall and only those able to avoid losses would remain in the market. These remaining developers would be making economic profits of zero i.e. the same as everyone else.

3. Summary of the Literature

Much has been written in the past ten years on the impact of land use controls on housing prices. The focus of these works has principally been on the effects of zoning regulations. Nonetheless, there is a body of published works that does attempt to analyze the effects of development fees on housing prices and prices of other developed real estate. As yet, an empirically defensible consensus has not emerged. The results indicate that the effects of development fees on housing prices, land values, and developer profits depend on the characteristics of the given market and differ in magnitude between the long run and the short run.

The most conclusive study to date of the effect of development fees is presented by Thomas Snyder and Michael Stegman (R-10). In a survey of developers in Orange County, California; Boulder, Colorado; and Orlando, Florida they discovered that when demand for housing was strong the developers were able to pass the cost of development fees forward onto the consumers. In places where the market was not as strong, they were unable to do so.

Developers' responses to a weak demand for their product varied. Snyder and Stegman discovered instances where developers upgraded their product line into a different market segment to diminish the share of development fees in the final price. One Colorado developer stated that one could not receive a higher price for an increased tap fee, but one could for a better product. Other development companies indicated that they would attempt to lower the amount they would bid for raw land. However, Snyder and Stegman reported a lack of consensus on wether it was indeed possible to capitalize development fees into lower land values.

In a brief article on impact fees in California (R-1), Robert Cevero and John Greitzer noted that cities with fees tend to have higher growth rates than cities without. Their survey also revealed that cities with fees also have twice the non-residential valuation per capita as those cities without fees. Only 19% of the planning and public works directors responding to the survey mentioned that developer resistance to the fees was a problem.

Professor Seymour Schwartz in his 1984 testimony before the California State Senate Committee on Urban Affairs (R-9) argued that, in the short run, higher development fees would result in higher prices for homes or lower developer profits. In the long run the fees would either be capitalized as lower residual land values or passed on as higher prices for homes.

According to Schwartz the stronger the demand in the market the easier it is for developers to pass the fees forward on to

consumers. In the short run, if demand was not particularly strong, a fee would be likely to result in lower developer profits. In addition, renters and occupants of multi-family dwellings were more likely to bear a greater burden of fee increases than would buyers of single family residences because they have fewer housing options available.

In Schwartz's view, when all the cities in a particular jurisdiction enact development fees, simultaneously, the fee is more likely to be passed on. This is because the developers in any one of the cities are not at a unique competitive disadvantage with respect to developers in the other cities as a result of the fee.

In the most mathematically rigorous study to date, David Dowall and John Landis (R-2) analyzed prices for new houses in the Bay Area and the factors influencing prices over the period January 1977 through June 1979. The effect of development fees was not the primary focus of their work but fees were a factor in their equation for computing the price of a new home. Their most statistically rigorous result indicated that it was impossible to express with certainty the effect of development fees on housing prices.

When they did not attempt to factor the effects of Proposition 13 into their equation, Dowall and Landis discovered that overall, in the growing suburban areas, development fees are positively linked with prices, but in a ratio of more than one to one. At their average, a $500 rise in fees resulted in a $1,000 rise in the price of homes. When they factored in a control for Proposition 13, there was no longer a statistically defensible correlation between fees and the price of a new home.

In 1980, two studies, Kenneth Rosen and Lawrence Katz (R-5) and Stuart Gabriel and Jennifer Wolch (R-3), were published which mathematically analyzed the factors influencing housing prices in the Bay Area. Both looked at the influence of a variety of factors, including fees, on the prices of homes, new and old. Their results, with regard to fees, were statistically inconclusive, in part because their survey included all housing, new and old.

In a 1977 study of the impact of local government regulatory policies on the market for new homes (R-12), the Urban Land Institute reported that the effect of impact fees and other costs applied by local governments to developers affected prices in different ways, depending on the strength of housing demand.

In San Jose, California demand for housing outstripped supply. Competition for developed land was fierce resulting in an escalation of land prices. Increases in development fees were successfully passed on in the form of higher prices. The absence

of a mathematically strict analysis of the relative effects of demand and input costs on the final price in this study makes it difficult to distinguish how much the increase in fees contributed to the increase in prices. The study does indicate that both fees, profits, and raw land holding costs all rose as percentage of the sale price of a new home.

In Jacksonville, Florida the housing market was more balanced. In real terms between 1971 and 1976, development fees rose, but there was not a commensurate increase in housing prices. In fact, prices for homes remained unchanged while profit margins fell. Land values during the period rose. In the view of the authors, the expectations of a future boom in construction and the low holding cost of agricultural land contributed to an unwillingness on the part of owners of a vacant land to accept lower land values.

It may well be that land values did not rise as much as they would have otherwise. In this fashion, the development costs were capitalized into lower land values. The absence of a statistically rigorous study of the factors contributing to increasing land values by the authors of that report leave this a matter for speculation.

The general consensus of the literature is that where the burden for development fees falls in the short run is a function of the balance between supply and demand in the market. When demand is strong, developers are able to pass the development fees, and occasionally an added amount for profit, on to the price of the home. If the market will not bear higher prices, then developers who already own the land must suffer a decline in profits.

In the long run, developers have tried to capitalize higher development fees into lower land prices. This approach while theoretically appealing, has not always succeeded in practice. There is evidence that when all developments in a particular market area pay similar fees, then the fees play a marginal role, if any, in the decision to build or not.

B. Results of Key Informant Interviews

The purpose in contacting key industry participants was to identify the response in the market-place to the imposition of development fees. Inevitably, the information gathered related also to the interviewees' experiences with assessments; where this information was volunteered, it was noted as a separate, although related issue.

1. Methodology

The approach adopted involved designing a separate survey instrument for each category of respondent for use as a guide for

the interviewer. All interviews were conducted by telephone with a sample of industry participants drawn from the consultants' own database of professional contacts and industry participants. A search was made of trade directories, real estate publications and other sources to widen the range of individuals covered in the sample.

A list of participants in the interviews is shown in Appendix B. The sample falls broadly into four categories:

- Land Sellers
- Land Buyers
- Appraisers
- Industry Observers/Participants

The intent was to cover as many of the key actors in the development industry as was possible. Brokers were also interviewed and depending on the experiences they related, they would fit into either the "Land Seller" or "Land Buyer" category.

At the start of the interviews, participants were assured of confidentiality and that no information used in the report would be attributed to any individual. The results of the interviews are therefore presented, when possible, in aggregate form so that where there was a consensus as to the impact of the fees within a particular group, this is shown. In most cases, as will be seen, this was not the case.

2. The Results

The results of the interviews are summarized for each of the groups below.

Land Sellers. Almost all of the individuals representing firms who were selling land in the face of fees, made the distinction between assessments and fees which have to be paid in cash at the time of final map approval. Those landowners who already have their lots approved will bear more of the burden of a lower selling price in the short-run, for their land. They have the option however, of holding on to their land in the hope that buyers, over the longer-run, are able to either absorb the fees, in lowered profits, or pass them forward. The owner of land against which there is an assessment can spread this over the 20-year life of the bond issue, at tax-exempt interest rates.

One person interviewed felt that in the face of high assessments on his property - $5.60 per square foot compared to a selling price of $6.50 - his short-run response has been to "eat the loss". In the long-run, however, one must assume that this

situation would not continue. The lessor of this property, unless he can convince tenants that the higher quality of the product he is offering is worth the premium price, will hold out for a longer period until the price is met.

In his own words, "We are not holding a fire-sale here. We have time to dispose of the remaining acres".

Respondents' experience of selling land in areas where there were no fees was mixed. They had all experienced pressure from buyers to reduce prices in areas with and without fees. In developments such as Moffett Park, Sunnyvale and Oak Creek, Milpitas where there are no fees, one source stated that the only problem there was "how fast you can develop and get out". It is not possible, however, from the interview responses to distinguish between the strength of the market and the lack of fees as the primary factor for success in those areas.

On the issue of buyer resistance to fees, the consensus among those interviewed, was that there is a general awareness among potential buyers that fees apply. Some buyer resistance was beginning to be felt, however, it was considered "too soon" to say whether their imposition would help push land prices lower. In contrast, the survey of appraisers, which is discussed later, indicated considerable resistance to fees by buyers of both land and finished product.

Sellers of commercial and industrial property say they have a particular problem disguising the fees since they can become a significant proportion of the selling price per building square foot. The over-riding consideration appears to be that in a good market, the land seller could hold on to the land for a longer period rather than accept a lower selling price, when faced with a development fee. Particular mention was made of Livermore's stance regarding fees which some of the respondents, in this group believed would effectively close-off the Livermore market until the uncertainty died down. One major landowner felt that Livermore "should be a healthy market" once the planning process "runs its course".

Buyers of Land. The individuals interviewed in this category were either developers who now owned the land outright or who had an option to develop the land, once the planning approvals were in place. The individuals/companies who were interviewed, each had differing experiences with fees.

One unifying strand throughout the conversations with the developers and broker in this sample, was the lack of apparent buyer resistance to paying the fee. All of the interviewees in this category, when asked about what they <u>did</u> when faced with a fee, tended to report that they would be able or had been able to "pass it on". That is, each of the developers clearly felt they

were in a market, which would bear the additional fees as an increased selling price for their product.

When pressed for what they would do, if they could not pass the fee forward, the consensus among the developers interviewed was:

> "It is often possible to put the squeeze on the landowner. However, if you own the land already and fees are imposed, the immediate reaction will be a lull in the market and development will slow down."

Another interviewee reported, about his experience of fees:

> "All things being equal, I would have to back off $5,000 per acre from the selling price of the property in this market before the project would pencil. I don't think I could do this in this market. I'm not sure what I'll do."

Further on in the conversation, this same developer said that these fees will probably result in an increase of approximately $2,500 - $3,000 on each home. In common with the others interviewed in this group, he did not feel this would have to be explained to the potential home buyers as he believed they simply viewed it as the market-price for the property.

One developer who had experience of fees when buying land in Tracy and San Jose, commented that his company was buying land now, in anticipation of higher fees being imposed next year. His company is able to land-bank and believes that the market will be particularly strong in the next two to three years. He notes:

> "The imposition of fees should not cut into profits in a good market. We'd probably be able to pass it on. We've been able to buy land now at approximately 1/2 price and will hold on to it for a couple of years."

While this developer did not explicitly state so, the implication is that in the long-run, he expects not to be able to pass the fee on - or at least is sufficiently uncertain that the market will be strong enough to bear the fees - and that he will not be able to negotiate land prices down sufficiently at that time. Hence, he is "locking" in a profit margin now, even allowing for the cost of holding the land. In sum, this developer clearly feels he is "buying the land right" and that this is his best insurance against fees imposed later.

The contention that all of the fee is passed on, is not clearly borne out by the survey of land buyers. As one developer in the Central Valley put it:

> "You often can't raise product prices, unless you are only selling to folks who are new to the area. In a bad market, the imposition of a fee will restrict development by slowing sales of homes. In a hot market, it's all passed on - even Mello-Roos Special Taxes which we have to disclose up front."

The only instance cited where the fees would cut into profits is if developers cannot raise product prices and the rate of sales is slower. As one interviewee noted:

> "If a house sits around for two months, it can cost $1,200; this comes straight out of profits".

The situation regarding industrial development was described by one of the companies who takes options on land rather than buying it outright. In this instance, the interviewee reported that if fees were raised by more than two cents per square foot on his warehouse development in Livermore, he would probably build in Union City. As a guide to the tolerance this company had for fee increases, he noted that if land prices per square foot of building area went from $4.25 to $10.00, he would move to another area, such as Union City, and enjoy the same advantages as Livermore does in terms of attracting industrial tenants.

This particular development company is also offering a similar product in Stockton and Modesto where there are no fees. His option, if he can not pass the fee through to the lessor, are "to wait longer to build or to move out to places like Tracy".

Appraisers. Six out of seven appraisers interviewed, all concurred that in the long-run all fees and assessments would lower land values i.e., it is "passed back". That there was a broad consensus among this group is not surprising since they are in a position to evaluate a great number of properties in many different jurisdictions where fees exist. Indeed, appraisers are an important source of objective information on the burden of fees and assessments as they <u>set</u> the market values for property.

Over the development cycle, to maintain profits, buyers who know of the existence of fees will try to negotiate a lower purchase price for land. This arises from a short-run situation where, even if a developer knows of the fees and believes they can pass them on, if the market will not bear the increase required to offset the fees, they will suffer decreased profits. In the words of one appraiser interviewed:

> "People are being caught with a lower profit in the short-term, but they won't be fooled twice."

In general, the appraisers in the sample would discount the base value of the land to account for even a relatively insignificant

fee or assessment. The entire approach is based on the premise that the amount of the fee or assessment is known and the appraiser cannot pass it on in the long-run to knowing buyers. Where a Mello-Roos Special tax was levied on a home, one appraiser noted that people demanded a lower purchase price; effectively, they were capitalizing the effects of a higher tax bill into the offering price for their home. He felt that eventually the tax would be discounted back to the land as part of the entire market cycle.

One exception to the above was cited by one of the appraisers in the situation where developers have taken an option on the land. In this situation, there is much less incentive to bargain for lower land values, since development is tied to getting the required approvals and building permits. In this case, the costs are more likely to be passed on but the whole amount may not be passed on in a weak market. Here, the profit margin is maintained by lowering the quality of the finished product. Effectively, the developer can lower the construction costs to produce a "similar" product. This point was echoed by one of the Building Industry participants interviewed. He noted however, that while there exists the option to lower costs in the face of a weak market, there is less latitude for cutting corners at the low-end of the market; it is mainly an option for builders of high-end, quality housing.

Industry Participants

Interviewees in this category commented that land values cannot be squeezed any further. One representative concluded his interview with the remarks that

> "in the Sacramento housing market, the profit margin on houses is too narrow as it is. The fees will always be passed on or, lower grade houses will be built".

In contrast, one industry observer from another market area concluded that where there was an ample supply of industrial land, the seller of land, or the developer, will not be able to pass the cost increase forward.

Summary

The responses to the interviews have to be interpreted as the short-run reaction of a small sample of landowners, developers and industry observers in the Livermore, Turlock, Pleasanton and Sacramento areas. As such, the options, which appear to be those considered most likely, are to hold on to land rather than accept lower selling prices and to pass on the fees in the residential market. However, the question must then be asked: What does this suggest for the longer-run reaction in the market-place? As has already been discussed, there is a cost associated with

holding on to land. If the reactions of this small sample are indicative of all land sellers, then the impact of the imposition of fees in the longer-run, must result in lower raw land values. Note that this was not stated explicitly by those interviewed, other than by the appraisers in the sample.

IV. ECONOMIC RESPONSES TO IMPACT FEES

In discerning which individuals or groups will bear the burden of Livermore's proposed traffic fee, it is critical to distinguish between the long and the short run. In this study, the long run is defined as one complete cycle of the real estate market: from boom to bust and back to boom again. The short run is the time it takes for any projects already begun to be brought to completion and sold. The profits earned on development and prices demanded for raw land and finished products are all affected by the time for one complete cycle to run.

Developers and land owners might tolerate certain conditions in the short term, as evidenced by the responses given in the key informant interviews, but not in the long term. While they might lose money on a particular deal, it is reasonable to assume that no developer would silently acquiesce to losing money for years on end. Similarly, it would defy conventional thought and experience to expect land owners not to choose to hold out for extended periods in the hope of garnering higher bids for their lands. This section presents some of the long and short term impacts of the proposed fee on prices for raw land and the finished product in the residential, office, commercial, and industrial real estate markets.

The burden of the fee may be manifested in ways other than a change in prices. A home buyer could bear the burden of the fee without the purchase price of the home having risen. If the builder were to offset the higher total fee package by lowering the construction quality of the home, but leaving the final price unchanged, then the "value" of the product purchased will have fallen, though the price remained unchanged. In this instance, the burden of the fee would have been successfully passed from the home builder to the home buyer in the form of a lesser product.

The raising of prices, though, does not inherently guarantee that the burden of the fee is passed forward. If the result of the higher selling price is a slowdown in sales, then the developer or builder suffers a reduction in profits. Profits are reduced by the inventory costs of holding on to the unsold property. The time value of money then is the burden of the fee, and at least part of it is carried by the builder or developer.

Tables IV-1, IV-2, and IV-3 illustrate the impact on the prototype projects of each of the three scenarios. The traffic impact fee that each project would pay is analyzed under three scenarios.

Table IV-1

THE BURDEN ON RESIDENTIAL DEVELOPMENT

	Single Family Homes (Per DU)	Multifamily Apartments (Per DU)
Base Land Value (1)	$30,000	$12,000
Construction Costs (2)	$132,400	$56,200
Profit & Overhead	$24,400	$10,200
Total	$186,800	$78,400
SCENARIO 1: THE BURDEN IS PASSED BACKWARDS		
Decrease In Land Value	$1,450	**$870**
As % of Base Value	4.83%	**7.25%**
SCENARIO 2: THE BURDEN IS PASSED FORWARD		
Increase in Product Price	**$1,450**	$870
As % of Base Price	**0.78%**	1.11%
SCENARIO 3: THE BURDEN TAKES THE FORM OF A REDUCED PROFIT MARGIN		
Decrease in Profit	$1,450	**$870**
As % of Original Profit Target	5.94%	**8.53%**

[ ] = **CONSULTANT'S ASSESSMENT OF THE MID-TERM IMPACT.**

Notes:

(1) The value of the parcel with maps and permits to build.
(2) Includes costs of construction, land improvement, and existing development fees.
(3) This table is based on data and market conditions as of November 25, 1987.

Source: Angus McDonald & Associates

Table IV-2

THE BURDEN ON RETAIL AND OFFICE DEVELOPMENT

	Office (Per Sq Ft)	Retail (Per Sq Ft)
Base Land Value (1)	$12.48	$35.36
Construction Costs (2)	$52.71	$47.65
Profit & Overhead	$9.78	$12.45
Total	$74.96	$95.46
SCENARIO 1: THE BURDEN IS PASSED BACKWARDS		
Decrease In Land Value	$4.06	$4.35
As % of Base Value	32.54%	12.30%
SCENARIO 2: THE BURDEN IS PASSED FORWARD		
Increase in Product Price	$4.06	$4.35
As % of Base Price	5.42%	4.56%
SCENARIO 3: THE BURDEN TAKES THE FORM OF A REDUCED PROFIT MARGIN		
Decrease in Profit	$4.06	$4.35
As % of Original Profit Target	41.52%	34.94%

[ ] = CONSULTANT'S ASSESSMENT OF THE MID-TERM IMPACT.

Notes:

(1) The value of the parcel with maps and permits to build.
The base land value is value of the raw land necessary to support one square foot of leasable space.

(2) Includes costs of construction, land improvement, and existing development fees.

(3) This table is based on data and market conditions as of November 25, 1987.

Source: Angus McDonald & Associates

Table IV-3

THE BURDEN ON INDUSTRIAL DEVELOPMENT

	Warehouse (Per Sq Ft)	Mixed Industrial (Per Sq Ft)
Base Land Value (1)	$3.19	$15.63
Construction Costs (2)	$22.30	$22.65
Profit & Overhead	$3.82	$5.74
Total	$29.31	$44.01
SCENARIO 1: THE BURDEN IS PASSED BACKWARDS		
Decrease In Land Value	**$1.60**	**$1.74**
As % of Base Value	**49.99%**	**11.13%**
SCENARIO 2: THE BURDEN IS PASSED FORWARD		
Increase in Product Price	$1.60	$1.74
As % of Base Price	5.44%	3.95%
SCENARIO 3: THE BURDEN TAKES THE FORM OF A REDUCED PROFIT MARGIN		
Decrease in Profit	**$1.60**	**$1.74**
As % of Original Profit Target	**41.72%**	**30.31%**

[ ] = **CONSULTANT'S ASSESSMENT OF THE MID-TERM IMPACT.**

Notes:

(1) The value of the parcel with maps and permits to build. The base land value is value of the raw land necessary to support one square foot of leasable space.

(2) Includes costs of construction, land improvement, and existing development fees.

(3) This table is based on data and market conditions as of November 25, 1987.

Source: Angus McDonald & Associates

In the first scenario it is assumed that the fee lowers raw land values by a sufficient margin to allow profits and the final product price to remain unchanged (for non-residential projects the value of raw land necessary to "support" one square foot of finished building space is presented). In the second scenario, it is assumed that the entire fee can be passed forward in the form of higher prices for the finished project. Scenario three analyzes the effect if the entire burden of the fee falls on developers and builders' profits. The profits are reduced by an amount equal to the fee. The esti-mated raw land costs, construction costs, and profit margins for the six prototype projects are calculated.

A. The Impact on Livermore's Competitive Position

The effects of the proposed traffic impact fees arise from a decision on the part of the City of Livermore to maintain its level of traffic service, in the face of future development and economic growth. This decision has resulted in a policy which should reduce the uncertainty facing many local developers. The proposed fee assures adequate roadway capacity and effectively allocates the responsibility to pay for improved roads on a fair share basis.

Livermore is not alone in its market area in considering the imposition of traffic impact fees. It is, however, the first. Other cities will, at some point, have to consider the use of fees to mitigate traffic impacts and these may well be even higher than those in Livermore. Tracy is a case in point: while it enjoys a competitive advantage currently over Livermore, it may only be a matter of time before they and other cities impose traffic impact fees on all development.

The imposition of the proposed traffic impact fee will affect Livermore's current status as a site for residential, commercial, office, and industrial development. The impact of the fee on either developer profits, product prices, or land values will be direct. The infrastructure benefits derived from the proceeds of the fee will influence land and product values in a more indirect fashion. The direct relationship will have a greater influence than the indirect relationship. Raising the cost of development in Livermore can only detract from the attractiveness of the site as a place to develop.

Development fees affect Livermore's attractiveness as a site for development, but they are not the primary variable in the construction and development decision making process. Fundamentally, Livermore's attraction as a site for development is the product of Livermore's location and the existence of land zoned for development. The proposed traffic impact fee will not affect these primary variables. In the course of the interviews with appraisers and brokers who have worked in Livermore, the prin-

cipal complaints related to the uncertainties of the planning and approvals process in Livermore; a situation which in part, the proposed fee should help in the long run.

The impact of the proposed fee will vary among markets depending on the characteristics of the particular market. In markets where there is not much other competition with Livermore, the fees will not result in a significant eroding of Livermore's position. In addition, in markets where the fee is small relative to profit margins or small relative to existing fees, the effect on Livermore's competitive position vis-a-vis other areas can be expected to be less significant.

The fees will not have a large impact on Livermore's position as a supplier of lower priced housing for the area. Table II-3 showed that the proposed fee is approximately 14% of existing fees in the residential markets. In addition, Table IV-1 shows that the proposed fee ranges from 5.9 to 8.5% of the profits of the prototype single and multi-family developments in this market. Given this and Livermore's position as one of the few remaining sites where less expensive housing can be built on a large scale in Alameda County, the fee cannot be expected to noticeably harm Livermore's attractiveness in the residential markets. The fee's effect on Livermore's standing in the office, commercial, and residential markets is quite different.

If Livermore imposes high traffic impact fees and the other cities offering similar development products do not, then the fee can be expected to dilute Livermore's attractiveness as a site for non-residential development. The proposed traffic impact fee's size relative to other fees and profits is quite significant. As can be seen in Table II-3, it is greater than all other fees combined for these markets. The proposed fee is also high relative to potential developer profit.

In contrast to the residential example, for the non-residential prototypes the fee is large relative to profit margins. Tables IV-2 and IV-3 illustrate that the fee would range from 30.3 to 41.7% of the profits in the prototype non-residential development projects. The fee's weight, in combination with the ample number of sites in Southern Alameda County all competing for non-residential development, would erode Livermore's competitive position. Industrial real estate brokers have noted that Livermore's primary competitive advantage is as a less expensive site.

The impact on Livermore's development will be manifested in a slowdown in commercial, office, and industrial construction. The land will not disappear and will eventually be developed. That development is contingent upon the cost of development in Livermore being sufficiently lower than in surrounding areas to

price final products at the discount that will attract buyers from other areas.

B. The Impact on Land and Product Prices

The long run impact can be expected to be a lowering of land values. Unlike planned real estate projects, land is a fixed resource. A developer may choose among a large number of sites in the Bay Area for a place to build, but the land in Livermore cannot be used to build office buildings in downtown San Francisco. This approach, was confirmed in interviews with leading Bay Area appraisers, as discussed in section B of chapter III. The decline will not show up as an immediate drop by 4.83%, for land zoned for single family detached homes (see Table IV-1), to 49.99%, for land zoned for warehouse uses (see Table IV-3). The reduction in land values will be principally expressed in slower sales.

Discussions with industry participants indicate that land sellers are loathe to accept lower prices on their land. Land owners who must sell their land will have to do so at the lower post-fee price. It can be expected that most land owners will hold on to their land, as they wait for prices to "recover". The act of waiting has a cost, both in the time value of money and the annual out of pocket expenses of holding land, such as property taxes. If a land owner waits four years in order to realize the original nominal price for the land, then the land owner will take a real loss in the opportunity cost, foregone revenues or interest that could have been earned on the revenues from sale of the land.

When the fee is large relative to existing fees or relative to final product values and profit margins there will be more pressure to pass it backwards on to the land. In the residential market the proposed fee can more easily be passed on because it represents a relatively low fraction of the development cost components: Table IV-1 illustrates that the proposed fee is up to 1.1% of the prototype single and multi family residential dwelling unit product price; between 5.9 and 8.5% of total developer and builder profits; and between 4.8 and 7.2% of raw land values. Industry contacts have noted that especially in the residential market it is far easier to pass small increases forward to consumers. Homes are not completely homogeneous from lot to lot and small price differences can be explained away by a home's "unique" qualities. It should be noted that multi-family units bought for investment purposes are more like non-residential properties as regards their sensitivity to competitive sites.

In the non-residential market every site faces competition from a large market area. Warehouse developers evaluate Livermore in contrast with Hayward, Newark, Union City, Solano County, Tracy,

Modesto, and Stockton. Livermore is competing with the entire Bay Area in trying to attract large office and mixed industrial development. These non-residential markets are more typical of the classic perfect market environment where every seller and buyer is a price-taker, accepting the market price as a given. With the current market price as a cap on end product selling prices, the new traffic impact fees cannot be passed forward in the form of higher prices. This is especially true when the fee's size is compared to the other costs.

The fees for non-residential development are a larger fraction of the cost elements than for residential development. Tables IV-2 and IV-3 reflect these percentages. As a fraction of the value of raw land necessary to support the prototype projects, the proposed fee is between 11.1 and 49.9% of the value. The fee is between 3.9 and 5.4% of the final product price, and, especially significant for a developer or builder, between 30.3 and 41.7% of the projects profit. Outside of a phenomenally strong demand driven market, it is unlikely that rents can easily rise. Conversations with developers confirm buyer and tenant resistance to accepting rents above market levels. It is reasonable to assume that developers will not happily enter a market expecting to have their profits lowered by up to 42% (see Tables IV-2 and IV-3). The bottom line is a decline in land values.

The decline in land values is primarily evident in the slowdown in land sales. Until developers can make a purchase of raw land at a price that will allow them to build profitably they will not buy. If a majority of land sellers hold out, and contacts indicate that this is typical, then the added development cost in the form of fees is capitalized into lower land prices by forcing land owners to absorb the cost both direct and indirect as opportunity costs of holding on to land at a level below its "highest and best" use.

During periods when demand for buildings or land outstrips the supply higher fees can be expressed in the form of higher prices. This is true, when demand is sufficiently greater than supply, for non-residential properties. However, over the course of the real estate business cycle, at some point supply will exceed demand and the higher costs of development will be forced back into lower land values.

C. The Impact on Profits

It is a fundamental tenet of classical economic theory that, over the long term, profits are the same in all businesses. As economists express it: over the long term all suppliers earn economic profits of zero. While at any given time some producers may be making very high or very low profits or even taking losses, this is a transient phenomenon. The realtors, developers and appraisers contacted indicated that no one will begin

building if they do expect to make a profit. There is some flexibility though; profit margins in Contra Costa County have fallen from 15-17% to 10-12% without a gross reduction in development. Essentially, developers will not bear the burden of the proposed fee in the form of significantly lower profits over the long run.

Developers may see a reduction in profits in the short run, but not over the long run. As a chief appraiser at a major real estate brokerage firm put it: "they [builders and developers] may be burnt once, but not twice." If a 15% profit can be made somewhere else, why tolerate profits of 10% or less in Livermore? If, over the long run, higher profits can be made elsewhere, then there is no reason to expect developers over a multi-year period to continue to tolerate lower than normal profits in Livermore as a result of higher fees.

D. The Time Frame - A Special Issue

The short-term is defined as the time taken for any project already underway to be completed. Completion meaning that the project is sold or leased. In the short term the existing supply/demand balance and the price elasticity of demand have a large influence in determining whether or not the newly enacted fee is reflected in higher prices or lower profits. The price elasticity of demand is an economic concept that expresses a product's sensitivity to price changes. If housing in Livermore has a low elasticity, then if the price of homes was to rise by a certain percentage the number of homes purchased would decline, but by a smaller percentage. A high price elasticity of demand means that the quantity of a product sold is very sensitive to the price: a small percentage change in price leads to a larger percentage change in sales.

In the market for single family homes the fee will be passed along to buyers in the short term. In markets where the demand exceeds supply and the price elasticity of demand is very low, the final price can be raised without causing a decline in total developer revenues. The brokers in the Livermore area have all indicated at the present that the constraint on sales of single family homes is the supply. Prices shown in Table IV-1 will rise by at least 0.8% for homes similar to those in the prototype development. If the fee is just included as a cost of construction and thus subject to the 15% mark up for profitability the home prices could well rise by over 1%. The proposed fee will impact construction quality as well as price.

Instead of raising home prices some builders have lowered construction quality as a result of increased construction costs brought on by the imposition of development fees. In this environment, in the short term fees will cause the final price of homes to rise, or for the quality of a home at a given price to

fall. One contact explained how this had been done in a project she was involved in the Livermore area. She sees a decline in home quality as the most likely result in the $100,000 to $160,000 end of the single family detached housing market.

In the non-residential and multifamily markets the fee will squeeze the profits of developers currently constructing their projects. In all of these markets either demand is weak, competition with other areas is fierce, or the price elasticity of demand is high (i.e. raising the price of the product will be more than offset by the sharp drop in the quantity purchased). One commercial broker characterized the market for high technology industrial and office space in Livermore as "dead". Another noted that developers of warehouse space are "not meeting their pro-formas", their profit targets. Price competition with other localities for warehouse space is fierce; warehouse space in Livermore faces a highly elastic demand curve. One appraiser said that rising costs of construction and higher capitalization rates have already pared profits for builders of multifamily units "to the bone" and are being reflected in lower land values. Another responded that the multifamily units in a project she was involved in were selling at a loss.

In a weak market, costs cannot be passed forward and profit margins must absorb any added costs. Appraisers and brokers contacted noted that when the costs could not be forwarded to the consumer, as was the case in the weak or competitive markets, developer profits had to fall. The short run impact of the proposed traffic mitigation fee would be a contraction in the profit margins of developers who have already purchased land, but have yet to sell their projects. The reduction could be as high as 41.7% and as low as 8.5% for builders of warehouse space and multifamily units similar to the prototype, respectively. Those developers who already own the land they are developing cannot after the fact lower the price at which they purchased the land. In light of the markets they face, current developers of non-residential and multifamily properties will have their profits reduced by the proposed traffic impact fee in the short-run.

The mid-term is defined as the next two years of the development cycle for the purposes of this analysis. The effect of the proposed traffic impact fee will differ in this time frame. For the mid-term, there is sufficient time for land values to react to changed development costs and market conditions, but the market will not pass through an entire business cycle. In the non-residential markets, where profits were being squeezed in the short-term, land values will fall.

The market for single family detached homes in Livermore is very strong. Barring major changes in the national economy, demand will continue to exceed supply and the fee will be passed on in the form of higher prices. As described earlier, the relatively

small size of the fee relative to home prices, the significant fragmentation of the market, and the supply/demand balance are what allow the fee to be passed forward. The more competitive the markets, the more likely profits will be squeezed.

Land values will fall for all of the remaining categories. Businesses and multi-family units constructed for investment purposes are more price sensitive and the market is much weaker so, over the mid-term, land values must fall for these categories. For the local office and retail real estate markets, site location is more important than it is for the industrial markets. These markets will be able to tolerate an element of price increases, but they will not absorb the entire burden of the increased fee. Some fraction must be reflected in lower land values.

The markets for multi-family residences and industrial properties are weaker than the other markets. In addition, site location is less of a factor for the industrial markets, and price is a greater role. The weakness and sensitivity of these markets make price increases very unlikely. Profits will be squeezed as developers compete for tenants and, over the mid-term, land prices will fall.

V. CONCLUSIONS

This chapter presents the consultants' conclusions as to the burden of the proposed traffic impact fees in the City of Livermore. The assertions as to market response are drawn from the analysis in the preceding chapters, and would apply in any jurisdiction, to the range of development charges (fees and assessments) examined in the course of this study. The approach adopted has been to first examine the theoretical framework for analyzing the impact of fees. Where this provided a guide as to where the burden fell, this was tested in the survey of decision-makers in the development industry. The "in-practice" survey of the development community did not, in general, assist in understanding the longer-term implications of the imposition of a fee. Their discussion centered primarily on the short-run actions and reactions of those directly affected. For this reason, the conclusions the study team has reached are presented for three different time-frames: the short-run, the mid-term, and the long-run.

A. The Short-Run

Over the shorter time-period (defined earlier as the time taken for a project already underway to sale-completion), the theoretical framework is closely mirrored by the practical response of the industry. The characteristics of the market over time play an important role in determining whether all of the fee can be passed on, in higher product prices or absorbed into lower profits. The conclusions of the consultant team, by typical project type, are summarized below:

Residential Properties. The short-run economic response to impact fees is likely to be a price increase of 10% in the prototype development. Another way in which fees could be "passed forward" is in the lower quality of homes on the market at a given price, although a lower-quality product would be difficult to market under today's market conditions.

Non-Residential Properties. In these markets, and to a lesser extent in the multi-family market (lesser since the actual impact depends so critically on the weak market conditions prevailing currently in the areas analyzed in this study), fees will have the effect of lowering profits. This is particularly true for builders who have already acquired the land or entered into pre-lease agreements. Under the most extreme circumstances, the reduction in profits could amount to over 40% for warehouse space and approximately 80% for multi-family units. (Once again this is a short-term effect.)

B. The Mid-Term

Single Family Residences. In this period, the effect of the traffic impact fees will be similar to the short-run response. This conclusion is particularly relevant in the Livermore market, which is strong and likely to remain so, over the next two to three years.

Other Categories. Where profits were squeezed in the short-run, land values will fall. For retail and office development, a combination of higher prices and lower land values will be the result of imposing the traffic impact fees.

C. The Long-Run

As evidenced by the results of the key informant interviews, there are few clues as to the long-run practical responses to impact fees. In this instance, the theoretical analysis and some of the independent appraiser interviews provide a rational basis for drawing conclusions.

Those who experience the impact of the fee directly are experiencing only the short-run effects. Ultimately, over time, all short-run direct impacts, be they in the form of higher home prices, reduced quality of the home or lower profits, find their expression in lower raw land values in the area.

An additional downward pressure on land values over the long-term will arise from the reduction in profits experienced by developers who already own the land when the fee is imposed. The short-run squeeze on profits of developers in Livermore will not be tolerated and will find its outlet in lower land values as developers move elsewhere. This is particularly true of the warehouse and industrial markets where there are many substitutes for the product. Livermore's once competitive position as a less expensive site to develop, is therefore likely to be eroded over the long-run, until or unless other cities with which Livermore competes adopt similar traffic impact fees.

Appendix A

PROFILE OF TYPICAL PROJECTS

	Single Family	Multi-Family	Office	Retail	Warehouse	Light Industry Mix
Site Size Acres	4	4.3	.23	1	4.5	8
Lot Size (Average)	9680 SF	-	10,000 SF	43,560 SF	196,020 SF	348,480 SF
Building Size			4,400 SF	11,000 SF	76,800 SF	78,600 SF
Total Dwelling Units	18	48	-	-	-	-
Dwelling Unit Average Size Estimate	1800 SF	800 SF				
Building Construction Cost Estimate	$91,500-128,000/DU	$354,800 625,400	$268,700	$484,000	$1,536,000	$1,209,40
Sanitary Sewer Volume	220 gal.	145 gal.	440 gal.	880 gal.	3,840 gal.	7,860 gal.
Water Meter Size	18-5/8"	3-2"	1-3/4"	1-2"	1-1" 1-1.5"	3-2"
Impervious Surface	-	101,572 SF	7,840 SF	39,420 SF	171,720 SF	227,480 SF
Sanitary Sewer Fixtures (Estimate)	-	465	8	8	6	10

Key: AC = acres SF = square feet DU = dwelling unit

Source: Compiled by Angus McDonald & Associates in conjunction with City of Livermore Departments of: Building, Engineering/Public Works and Planning.

Appendix B

LIST OF KEY INFORMANT INTERVIEWS

1. Landowners/Development Companies (7)
2. Real Estate Brokers: commercial, industrial, residential (4)
3. Bank Appraisers (7)
4. Independent Appraisers (1)
5. Building Industry Participants (3)
6. Independent Development Industry Participants (3)

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